Nomenclatural Changes for the New Species Assigned to *Cratena* by MacFarland, 1966

BY

RICHARD A. ROLLER

1127 Seaward Street, San Luis Obispo, California 93401

(2 Text figures)

Frank Mace MacFarland's posthumously published volume on the opisthobranchiate mollusks of the Pacific coast of North America (1966) has been used by many research workers who felt the need for a comprehensive reference work on this group. The difficult task faced by the late Olive H. MacFarland in collating her late husband's notes and drawings was mentioned by G Dallas Hanna in his preface to the monograph, and he anticipated that corrections and additions might be required at a later date.

Burn (1968) commented on the need for Pacific coast workers to synonymize and validate the species described by MacFarland as new. The present contribution demonstrates the need for the generic transfer of 7 of these new species.

MacFarland (1966) introduced 7 new aeolid species (*abronia, albocrusta, flavovulta, fulgens, rutila, spadix,* and *virens)* and assigned them to the genus *Cratena* Bergh, 1864. Mrs. MacFarland added a note (op. cit., p. 332) that stated, "There is evidence among his notes and a letter from Nils Odhner that the author was carefully evaluating the status of the proper genus name for this group of aeolids prior to his death in 1951. However, the manuscript is published as left by him because he had not seen the later publications. The paper by Winckworth (1941, pp. 146 - 149) in which *Catriona* is substituted for *Cratena* is especially significant."

Species of the genus *Cratena* have the cleioproctic anal position; however, all 7 of the new species of aeolids described by MacFarland have the acleioproctic anal position. Therefore the 7 species cannot be retained in *Cratena.*

Opinion no. 777 of the International Commission on Zoological Nomenclature (1966) added *Trinchesia* Ihering, 1879 to the Official List of Generic Names. In his proposal for stabilization of *Trinchesia,* Lemche (1964) stated that "there is still the possibility that *Catriona* could be used for a genus . . . . independently of *Trinchesia.*" Burn (1964) and Edmunds (1968) maintained *Catriona* as a valid genus separate from *Trinchesia,* and several other specialists (personal communications) have concurred with this separation.

The two genera may be characterized as follows:

Catriona	*Trinchesia*
Acleioproct Eolidacea	Acleioproct Eolidacea
Radula uniseriate with cusp shorter than lateral denticles	Radula uniseriate with cusp as long as, or longer than, lateral denticles
Small secondary denticles interspersed among lateral denticles of radular tooth	No small accessory denticles among lateral denticles of radular tooth
Denticles on cutting edge of jaw in form of fine bristles, or bristled rodlets	Denticles on cutting edge of jaw not bristled

Of the 7 new species of MacFarland, 6 have the characteristic radular tooth shape and jaw denticulation of *Trinchesia,* while the remaining one has the radular tooth shape and jaw denticulation of *Catriona* (Figure 1). Therefore I propose that the following species be assigned to *Trinchesia*:
abronia, albocrusta, flavovulta, fulgens, and *virens.*

Sphon & Lance (1968) synonymized *Cratena rutila* MacFarland, 1966 with *Catriona lagunae* (O'Donoghue, 1926). Since *C. lagunae* cannot be included in *Catriona* because of its typical *Trinchesia* radular tooth shape and jaw denticulation, it must be transferred to *Trinchesia* as a comb. nov., *Trinchesia lagunae* (O'Donoghue, 1926).

As shown in Figure 1, the radular tooth shape and denticulation of the jaw of *Cratena spadix* MacFarland, 1966 are obviously different from the remaining 6 species.

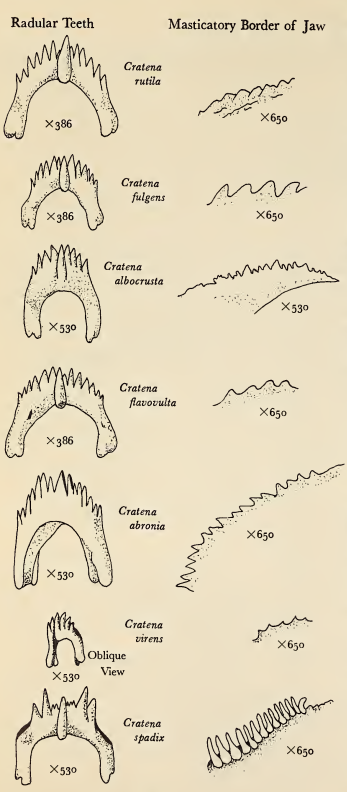

Figure 1

Specific differences of the species assigned to *Cratena* by MacFarland, 1966

MacFarland (1966, p. 354) notes that the penial stylet of *C. spadix* is not "as in the allied forms." This species was assigned to *Catriona* by Edmunds (1968).

Sphon & Lance (1968) provided an "abbreviated synonymy" of certain of MacFarland's 1966 species. One of these species was *Cratena spadix* MacFarland, 1966 which they synonymized with *Cuthona alpha* Baba & Hamatani, 1963. The findings below support their synonymy.

Lance, (1966) reported the collection of 6 specimens of *Cuthona alpha* from San Diego, Newport Harbor, and Santa Barbara, California All specimens were collected on boat landings in protected waters. The author collected 2 specimens of *C. alpha* on 9 February 1968 from boat landings in Morro Bay, California. They agreed with the description of the holotype of *C. alpha* as given by Baba & Hamatani (1963). They also agreed with the description of *Cratena spadix* MacFarland.

Careful study of the descriptions of these two species showed them to be alike in almost all of their characteristics, but different in 2 important points: the presence or absence of a penial stylet, and differences in the masticatory margin of the jaw.

MacFarland in 1966 described the penial stylet of *Cratena spadix* as a "thin-walled chitinous armature which does not project beyond the surface of the tip as in the allied forms." Baba & Hamatani (1963) described *Cuthona alpha* as a "mosaic species which has the decided radula type of *Catriona* on one hand, and the presumed penis peculiarity of *Cuthona* on the other hand." *Cuthona* was described as having an unarmed penis. The authors tentatively placed the species in the genus *Cuthona* Alder & Hancock, 1855.

It appeared to the author that the 2 species might be synonymous, if *Cuthona alpha* did in fact possess a minute non-protruding stylet. This possibility was suggested to Dr. Baba, and upon re-examination (at high magnification) of paratype material he found a very short non-protruding stylet (personal communication).

Edmunds (1968) characterizes *Catriona* Wingkworth, 1941 as having "denticles on cutting edge of jaw in the form of fine bristles . . . short, straight stylet on penis." He assigned *Cratena spadix* to the genus *Catriona* and also proposed the possibility of the inclusion of *Cuthona alpha* in *Catriona*, "if details of the preradula and jaws were known, and if the genus were extended to include species without a penial stylet." The presence of a stylet in *Cuthona alpha* makes the extension of the genus *Catriona* unnecessary in order to include this particular species.

The masticatory margin of the jaw of *Cratena spadix*, as described by MacFarland (1966) was very different from the remaining 6 species of *Cratena* he described

at the same time. The margin of *C. spadix* was listed as bearing "a series of transverse rod-like thickenings which project beyond the margin as closely set blunt rodlets or ridges laterally in contact with each other . . . The rodlets are nearly straight near the hinge but become slightly curved as the tip is approached. At this tip, with high magnification, the surface seems to show minute spines."

In unpublished notes of MacFarland, a footnote by Mrs. MacFarland states, "With 5D magnification the surface of these rodlets at the lower end show a rough surface of minute spines. (Frank made one drawing)." This drawing (Figure 2) is reproduced herein for the purpose of augmenting MacFarland's original description, since this drawing was not included in the monograph.

Figure 2
Rodlets at lower end of masticatory margin of mandible (from unpublished notes of F. M. MacFarland)

Baba (personal communication) re-examined paratype material of *Cuthona alpha*, and found that the denticulations of the jaw edge "appeared as if they were covered with short, thick bristles."

Members of the genus *Cuthona* Alder & Hancock, 1855, are considered to have no penial stylet. Since *Cuthona alpha* is now known to have a short, straight stylet and bristled denticles on the jaw edge, the author proposes that the species be known by the new combination, *Catriona alpha* (Baba & Hamatani, 1963).

I would like to thank Dr. Kikutarô Baba for his kind assistance in this study, and also Mr. Allyn G. Smith of the California Academy of Sciences who made it possible for me to use the unpublished notes of Dr. and Mrs. F. M. MacFarland.

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